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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,833	01/20/2006	Maurizio Galimberti	07040.0227-00000	6471

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EXAMINER

FISCHER, JUSTIN R

ART UNIT	PAPER NUMBER
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1791

MAIL DATE	DELIVERY MODE
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08/14/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/536,833	Applicant(s) GALIMBERTI ET AL.	
	Examiner Justin R. Fischer	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 49-54 and 60-98 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 49-54 and 60-98 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 8, 2008 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 49-54 and 60-98 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takase (US 5,339,878) and further in view of Larson (US 6,598,645). Takase is directed to a motorcycle tire construction comprising a carcass structure 14, a belt structure 20, a tread band 16, a pair of sidewalls 18, and a pair of bead wires/cores 12. In this instance, Takase fails to include an elastomeric material that is "associated" with said belt structure and comprises at least one layered inorganic material comprising an individual layer thickness from 0.01 to 30 nanometers. However, it is well known to include inorganic materials to improve the reinforcement of a given elastomeric composition, as shown for example by Larson. In this instance, Larson

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suggests the inclusion of intercalated organoclays (in rubber/cord laminates, such as belt plies) that are at least partially exfoliated in situ, wherein the exfoliated platelets have a thickness of about 1 nanometer and the particles of the stacked platelets have a thickness between 10 and 40 nanometers (Abstract, Column 2, Lines 25-35, and Column 4, Lines 55-67). As such, one of ordinary skill in the art at the time of the invention would have found it obvious to include such an inorganic reinforcement in the belt construction of Takase (such a construction includes a belt structure associated with the claimed inorganic material).

As to the specific arrangement of the belt, Figure 2 of Takase clearly depicts a pair of crossed belt layers 20a, 20b and a radially outermost, circumferential belt layer 20c (inorganic materials can be included in any belt layer, including zero degree layer). In this instance, the claim language (associated with at least one layer of a crosslinked elastomeric material) is satisfied if the topping/coating rubber of the adjacent belt working ply 20b is formed with the relevant composition. Thus, the relevant composition is positioned between the carcass structure and the zero degree or circumferential belt layer.

With respect to claims 51, 52, 84, and 85, a portion of the intercalated organoclays are exfoliated, such that both intercalated clays and exfoliated portions are present.

Regarding claims 53, 54, 88, and 89, the increase in d-spacing appears to be a direct result of incorporating said inorganic material in an elastomeric composition. Applicant has not identified any specific processing means that results in the claimed

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increase and as such, one of ordinary skill in the art at the time of the invention would have expected the belt layers of Takase in view of Larson to demonstrate the claimed increase in d-spacing.

Regarding claims 60, 61, 86, and 87, the claimed values are consistent with the dimensions of conventional tire belt layers.

With respect to claims 62 and 63, Larson describes the inclusion of said inorganic material at a loading between 30 and 100 phr (Column 4, Lines 5-10).

As to claims 64-67 and 91, Larson suggests the preferred inclusion of smectite clay, such as montmorillonite clay (Column 2, Lines 45-55).

Regarding claims 68 and 69, the inorganic material/clay of Larson is treated with a quaternary ammonium salt (Column 2, Lines 49-52).

With respect to claims 70-73, 92, and 93, the claimed elastomers represent the well known conventional elastomers used in the tire industry, as shown for example by Larson (Column 6, Lines 30-50). It is emphasized that each of the claimed elastomers is extensively used in a wide variety of tire components, including the belt structure. Lastly, the claimed elastomers are recognized as having a glass transition temperature in accordance to the claimed invention.

As to claims 74-77, 81, 94, and 98, silane coupling agents are conventionally used in tire rubber compositions to “couple” or connect silica to a base elastomer component, which ultimately improves the properties of a given tire component. Larson provides one example of such a composition (Column 7, Lines 25-30).

With respect to claims 78-80 and 85-97, tire compositions are generally described as including a plurality of reinforcing fillers, such as carbon black, silica, and/or clay materials. In this instance, Larson recognizes the manufacture of rubber/cord laminates, such as belt layers, comprising each of the aforementioned reinforcing fillers (Column 6, Lines 50-60).

Response to Arguments

4. Applicant's arguments filed August 8, 2008 have been fully considered but they are not persuasive.

Applicant has amended the claim to define the belt structure as comprising only one layer of a plurality of circumferential coils- such is taught by newly cited Takase.

Applicant further contends that the claims have been amended to require the relevant layer of crosslinked elastomeric material be disposed either between the carcass structure and said layer formed of a plurality of circumferential coils or between said layer formed of a plurality of circumferential coils and the tread band. As detailed above, working belt ply 20b is arranged between the carcass structure and the layer formed of a plurality of circumferential coils. It is emphasized that the claims as currently drafted do not define the layer of crosslinked elastomeric material as being devoid of cord reinforcement- the claim simply requires that the at least one layer of a plurality of circumferential coils is associated with at least one layer of a crosslinked elastomeric material. Thus, the claim is satisfied if, for example, belt working ply 20b is formed with a topping/coating rubber in accordance to the claimed invention. It is emphasized that the language "is associated with" does not define over the belt

structure of Takase in view of Larson. It is further noted, even if all three belt layers are formed with layered inorganic material, the fact remains that "at least one layer of a crosslinked elastomeric material is disposed between the carcass structure and said layer of a plurality of circumferential coils".

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R. Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Justin Fischer

/Justin R Fischer/

Primary Examiner, Art Unit 1791

August 12, 2008